2020 Billings Spring Water School
Emergency Response Involving PWS / WWTP

Objectives:

1. **Discuss why emergency response is important.**
2. **Recognize the Incident Command System.**
3. **Describe the four phases of emergency management.**
4. **Discuss your role and responsibilities.**
5. **Describe real-world examples of emergencies.**
6. **Participate in a table-top exercise.**

OUTLINE

I. Why be Prepared for an Emergency?

- Health and safety of your customers.
- Remain in compliance with your legal requirements.
- Protect the environment.
- Protect your livelihood and reputation.
- Protect community image, trust, and politics.

II. Types of Emergency Response

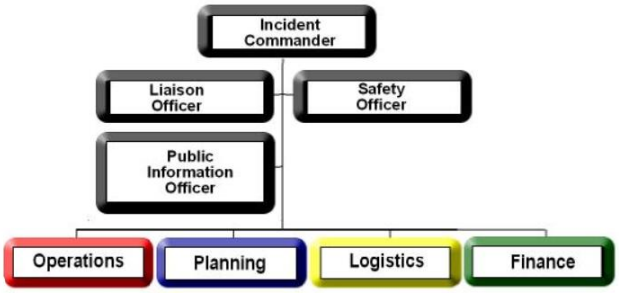
A. When Your Facility Causes the Emergency

- Clogged/broken/system backups/low pressure.
- Treatment system contamination.
- Vandalism - tampered locks / trespass.
- Accidental site breach leading to safety concerns.

B. When Your Facility is Threatened or Impacted by an Emergency

- Pipeline breach affecting source water.
- Environmental catastrophes – mass flow, weather events.
- Broken distribution/collection lines within street.
- Equipment failure; overflows in homes.
- High winds, power outage.

III. Incident Command System



The Incident Command System (ICS) is a standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies can be effective. ICS optimizes the management of facilities, equipment, personnel, and communications.

IV. The Four Phases of Emergency Management

"Mitigation - Preparedness - Response - Recovery"

1. **<u>Mitigation</u>** - *Actions that prevent emergencies, reduce the chance of an emergency, or reduce the damaging effects of an unavoidable emergency*.

- Maintain a working knowledge of applicable rules, policies, and procedures.
- Have a technical working knowledge of the system. Know who to call for rapid assistance. Maintain system checks on time and document. Anticipate failure and conduct preventative maintenance.

2. **<u>Preparedness</u>** - *Actions taken as per plans, policies, and/or procedures to minimize negative effects caused by an emergency*.

- Be familiar with the Incident Command System (ICS).
- Continue to train on multiple systems / scenarios.
- Maintain healthy relationships with key contacts; i.e. your management chain; local technical support; state support; elected officials; etc.
- Develop and maintain a <u>'Key Contact Call-Down'</u> list.
- Develop, maintain, and train on a site emergency response plan.
- Ensure for site communications. Hardline; cell service; FSRs; other.
- Ensure for emergency funding, cost recovery, and staff payment.
- Have a site safety plan, ensure for adequate personal safety gear (PPE), and response equipment (tools, monitors, sampling) including key replacement parts.

3. **<u>Response</u>** - *Actions taken to prevent further damage in an emergency situation*.

- Following discovery, make rapid notifications to key contacts.
- Understand your authority and jurisdiction - act within those boundaries.
- Organize your resources (ICS) and communicate often. Account for your people and resources.
- Establish work objectives consistent with the protection of human life, environment, and resources.
- Document your actions, work hours, and outcomes frequently.
- Establish a planning cycle and ensure to communicate situation status often.

4. **<u>Recovery</u>** - *Actions taken to return to normal or better following an emergency.*

- Assist key contacts with a short- and long-term plan.
- Plan for the next emergency using a worst-case scenario.
- Measure success by a variety of conditions.
- Conduct an After Action Review.

Emergency Response Checklist

Gather Information 'Discovery' 'Authority'

- ☐ Is the cause of the emergency known?
- ☐ Who is in charge? What is their authority?
- ☐ Has the local jurisdiction(s) established the initial on-scene ICS structure?
- ☐ What type of support do I need?

Notify Key Contacts 'Notifications'

- ☐ Key Contact Call-Down List; i.e. Public Works Director; Mayor's office; others.
- ☐ Determine DES, DEQ, and RP points-of-contact ASAP. Who will message what?
- ☐ Determine who is communicating with key contacts.
- ☐ Other local, state, and federal agencies, as appropriate.
- ☐ Contractors for technical support: engineering, laboratory, equipment, etc.

Organization 'Actions' 'Finance' 'Planning' 'Documentation'

- ☐ Program Organization. Assemble your program staff to assist.
- ☐ Begin Documentation. Maintain an on-going record of activity.
- ☐ Public Information. Ensure all points of contact are known with contact information.
- ☐ Staff Assignments. Ensure your staff know their ICS roles and responsibilities.
- ☐ Financial Codes. Ensure for the appropriate response charge codes.
- ☐ Logistics. Ensure for the logistical needs for your staff, including hotels, vehicles, equipment, building access, etc.
- ☐ Routine Situation Reports. Ensure for regular briefings "SitReps" on status of the situation. Maintain ongoing communications with local response team.

V. Emergency Response Case Studies

A. Facility System Emergencies

- 2018 - **Avon Family Cafe**. Well potentially compromised by unintentional chemical spill-no planning- responsible party monitored situation.
- 2019 - **Gallatin Gateway School**. Well damaged/accessed during an unknown type incident with contamination possible. No plan which extended recovery timeline.
- 2018-19 - **Lewis and Clark County**. Flooding, with multiple PWS's affected. Some flooded twice in 2018 with damage/contamination both times.
- 2020 - **City of Choteau**. Flooding of non-public water wells but used emergency declaration and plan to facilitate public health.

B. Emergencies that Impacted Facilities

- 2011 - **Laurel**. Pipeline failure on the Yellowstone River. PWS / WWTP concerns.
- 2015 - **Glendive**. Pipeline failure on the Yellowstone River. PWS / WWTP concerns.
- 2016 - **Big Sky**. WWTP failure affecting the Gallatin River.

- 2018 - **Norris.** Hazardous Waste incident with potential groundwater and surface water impacts.
- 2019 - **St. Regis**. WWTP failure. Collection pipe failure over Clarks Fork River crossing.

VI. Table Top Exercise

Instructions

1. **Read**. Review the scenario summary, resource list, and maps.
2. **Role Play**. You are acting in your current capacity as a certified site operator for Gold City.
3. **Discuss**. As a group, discuss the following questions that you need to address.

   A. What is my initial response(s) to this emergency? Why?
   B. Who needs to be notified about this incident? Why?
   C. What are your emergency response objectives? Why?
   D. What are the potential technical and logistical issues?
   E. Do you need assistance? What expertise would you request? Why?

****

Incident

Liberty County is in rural part of the state with a population of about 6,000. Gold City has approximately 2,000 residents and the county's only hospital. There are several smaller unincorporated towns downstream.

The Coffee River bisects the county from west to east, with an approximate flow of 1,500 cubic feet per second during July. Interstate 98 runs through the middle of the county adjacent to Gold City.

Agriculture is an important to the local economy, with irrigated holdings along the Coffee River. Significant surface water users include the Liberty Ditch Cooperative, Gold City Public Water Supply (PWS) and the Waste Water Treatment Plant (WWTP).

Monday, July 21, 06:45

A freight train derailed in Liberty County at a bridge crossing. One of the railcar's tank ruptured releasing approximately 4,000 gallons of liquid acetone (UN 1090) into the Coffee River. See map.
Emergency responders have been dispatched to the scene. Initial actions included forming a unified incident command team, establishing a hot zone; closing I-98 at the Coffee River Bridge and removing unassigned personnel from the incident scene.

Monday, July 21, 09:00

You were notified of the incident by the Mayor. The PWS needs to be shut down and evaluated to determine if the supply water from the Coffee River is safe to process. The WWTP needs to be evaluated for operation and discharge. The PWS intake is six miles downstream of the incident along with the WWTP discharge. Emergency responders are securing potable water and chemical toilets for residents.

Emergency response objectives are:

- Emergency responder and public safety;
- Incident stabilization; and
- Resource preservation.

Tuesday, July 22, 06:00

It remains unknown what the current and potential threats are to the PWS and WWTP. Emergency mangers are concerned for immediate and future threats to human health from contaminated PWS and/or a WWTP failure.

The Liberty Ditch Cooperative closed the main head gate which is one mile downstream from the bridge. Several farmers are pressuring authorities to reopen the irrigation canal, as summertime temperatures are affecting crops.

The Gold City/Liberty County EOC remains activated and is managing these issues:

- Distributing bottled/trucked water to residents and institutions;
- Updating local and state elected officials on situation status; and
- Providing information to residents.

Tuesday, July 22, 12:00

- The media is requesting interviews of incident status. You are being asked about the status of the PWS and WWTP.

- Several landowners have engaged law firms to file for damages associated with the incident. It is unknown if contaminated water was used to irrigate crops.

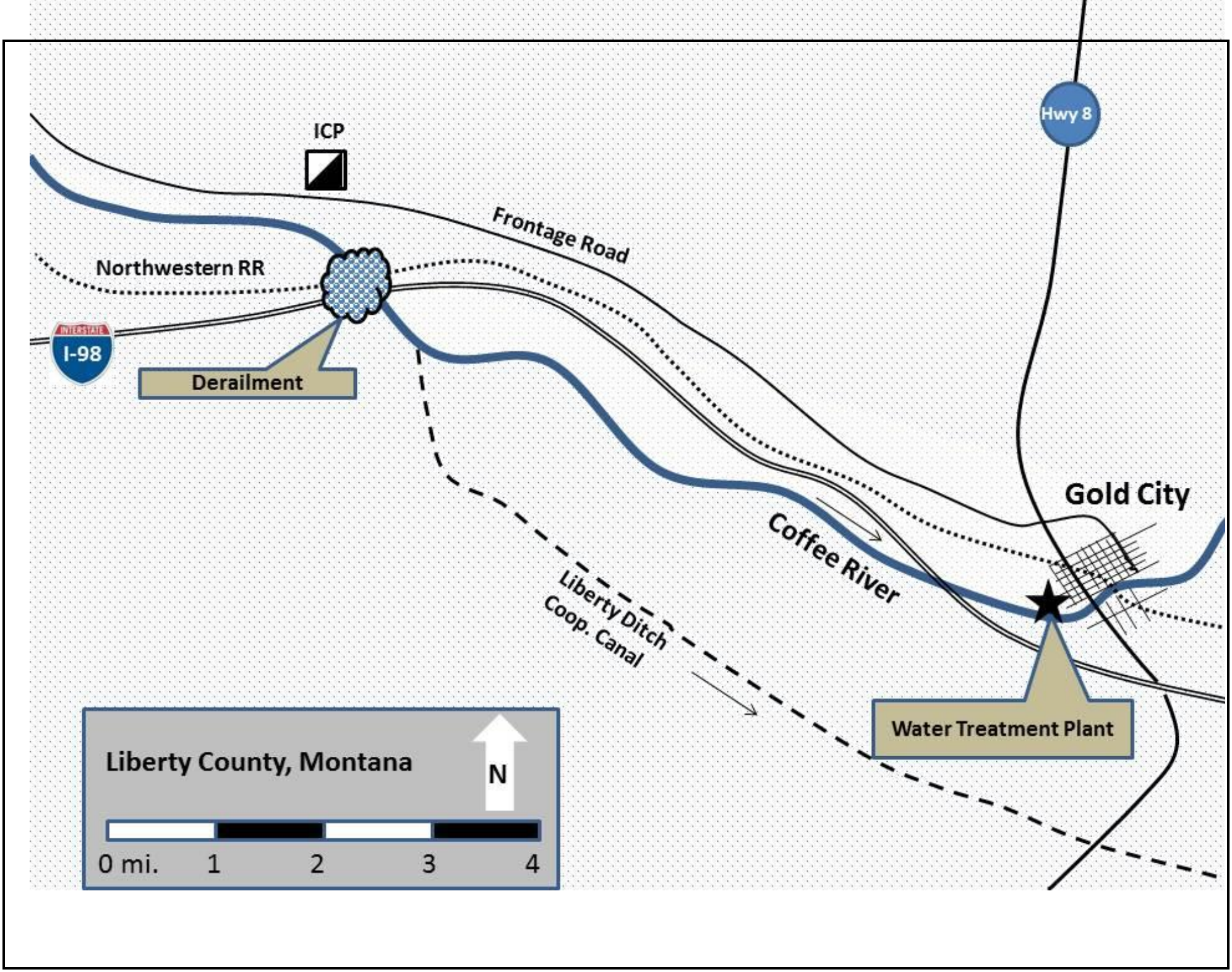
- Incident documentation must be carefully handled. Incident costs and resources expenditures also need to be tracked.

- Environmental damage needs to be assessed along the Coffee River and the Liberty Ditch. Damage to aquifers also needs to be evaluated.

- Although the PWS was shut down almost immediately and WWTP evaluated, it is still unknown if any treatment systems were contaminated. Also, the City Mayor wants to know an ETA for when drinking water service can be restored.

- Downstream impacts to residents and communities are also unknown. The next community PWS and WWTP is the town of Fergus, 65 miles downstream. It is unknown if there are any other diversionary users between Gold City and Fergus.

*** End of Scenario ***


ICP
Hwy 8
Frontage Road
Northwestern RR
INTERSTATE
I-98
Derailment
Gold City
Coffee River
Liberty Ditch
Coop. Canal
Water Treatment Plant
Liberty County, Montana
N
0 mi.
1
2
3
4